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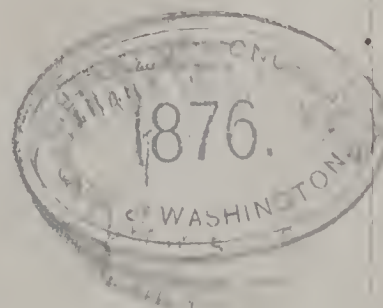
Early Accounts of Petroleum

—IN THE—

UNITED STATES,

BY WILLIAM J. BUCK.

*Read before the Historical Society of Pennsylvania, on Monday Evening,
March 13, 1876.*



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EARLY ACCOUNTS OF PETROLEUM IN THE UNITED STATES.

BY WILLIAM J. BUCK.

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The earliest information respecting Petroleum known to us within the limits of the United States, is that derived from the French missionary, Joseph Delaroche Daillon, of the order of Recollects, who penetrated into the interior of the present State of New York, and in a letter of July 18th, 1627, describing the section he had visited, mentions amongst its productions a good kind of oil which the Indians call *a touronton*. For this account we are indebted to Sagard's *Histoire du Canada*, wherein it was published in 1632, and who says the meaning thereof is "there is plenty there," or "how much there is!" The locality of this natural oil is supposed to be near the present town of Cuba in Allegheny county, about eighteen miles north of the Pennsylvania line. On Champlain's map of New France, prepared in 1632, he locates in this vicinity an Indian tribe by the name of "*Antonontons*," which we are inclined to believe is the same in name and meaning, and which Hunepin in 1698 calls "*Tsonnon-touans*," corroborated by Charlevoix' *Journal* in 1721, and Bellin's map of 1744. Probably there may be a connection in the derivation of the name as applied to the oil and to the settlement and tribe of the vicinity.

According to Charlevoix, about the year 1642 several Jesuits in their zeal for extending their missionary labors, penetrated into the same territory, and that in approaching the country of the ancient Eries, found a thick oily stagnant water, which on the application of fire would burn like brandy. The Messrs. Dollier and Galinee, missionaries of the order of

St. Sulpice, prepared a map of the country around lakes Ontario, Erie and Michigan and parts adjacent, which they had explored chiefly by water in canoes. A copy of this map with a relation of their travels was sent by the latter to Jean Talon, Intendent of Canada, the 10th of November, 1670, and has marked on it "*Fontaine de bitume*," about where is now the aforesaid town of Cuba. This is very probably the first mention ever made on a map of Petroleum in our country. A copy of the same may be seen in the "*Histoire de la Colonie Francaise*," (vol. 3, p. 305), published at Paris in 1866.

From the Indians the English learned at a much later period of its existence. For the Earl of Bellomont, Governor of New York, by his instructions dated Albany, September 3d, 1700, to Colonel Wolfgang W. Romer, Chief Engineer of the Province, upon his visit to the Five Nations, wherein he says:

You are to go and view a well or spring which is eight miles beyond the Seneks furthest castle, which they have told me blazes up in a flame when a lighted coale or firebrand is put into it; you will do well to taste the said water, and give me your opinion thereof and bring with you some of it.

I regret on this matter that I am not able to furnish the result. We have evidence, however, by what is given, that Lord Bellomont's attention became interested from the reports he had heard concerning it.

That observing missionary and historian, Peter Xavier Charlevoix, by order of the French Government visited Canada the second time in 1720. In the journal

of his voyage and travels, under date of River des Sables, May, 1721, in describing the Genesee, which he calls by its Indian name of Casconchiagon, says :

The course of this river is 100 leagues ; and when we have gone up it about sixty leagues we have but ten to go by land, taking to the right to arrive at the *Ohio*. called *La Belle Riviere*. The place where we meet with it is called Ganos, where an officer worthy of credit assured me that he had seen a fountain, the water of which is like oil and has the taste of iron. He said, also, a little further there is another fountain exactly like it, and that the savages made use of it to appease all manner of pains.

By the river of Sables, he means a small stream emptying into Lake Ontario, within the present limits of Oswego county. In a note mentions that the officer that furnished him with the information was M. de Joncaire, a captain in the French army, of whom we shall shortly have more to say. *Ganos*, according to James Bruyas, a missionary on the Mohawk, in 1667, is derived from the word *genie*, or *gaienna*, which in the Iroquois language signifies liquid grease, or oil.

In the summer of 1767 Sir William Johnson was sent to Niagara for the purpose of transacting business with the Indians. From his journal we learn that on September 19th

“Ascushan came in with a quantity of curious oyl, taken at the top of the water of some very small lake near the village he belongs to.”

It is mentioned that three days after he had “set off for the Genesee Castle,” which appears to have been near this celebrated spring or fountain. A correspondent in a letter dated May 24th, 1822, and published in *Spafford's Gazetteer*, says :

The Seneca Oil spring, noticed in the first edition as in Cattaraugus county, is actually in Alleghany, and in the town of Cuba, about one mile from the line.

In the *Gazetteer of New York*, a most valuable work published in this city in 1836, by our late fellow member Thomas F. Gordon, there is an interesting account

which we cannot do better than transcribe and appears to corroborate what has been brought together in these researches :

The famed Seneca Oil spring rises in a marsh. It is a muddy, circular, stagnant pool about eighteen feet in diameter, with no visible outlet, and no other circulation than may be caused by changes of temperature and passage of the gas and petroleum which are constantly rising, and which emit an odour sometimes perceptible at a distance. The water is coated with a thin layer of the mineral oil, giving it a yellowish brown colour, similar to dirty molasses, exhibiting little of the iridescence which is commonly observed in this substance when floating upon water ; yet small portions of this character are visible. The oil is collected by skimming it from the fountain, and used for rheumatism, and for sprains and sores. The spring was much prized by the Indians, and a square mile around it has been reserved for the Senecas. A small branch of Oil Creek, taking its name from the spring which flows to the Gulf of Mexico, whilst the waters of Black Creek, which interlock with it, pass by the Genesee into Lake Ontario. The earth in the vicinity of the spring we are describing, is strongly impregnated with the Petroleum, and its presence is deemed indicative of bituminous coal beneath ; a bed of which, we are told, has been discovered near the spring, and hopes are entertained that it may prove valuable. The opinion hitherto received by men of science has been, that though the coal formation extends here from Pennsylvania it lies at vast depths.

Disturnall in his *Gazateer of New York*, published in 1842, mentions that :

The oil spring, on the west line of Alleghany, belonging to the Seneca Indians, yields large quantities of Seneca oil, and is an object of considerable interest.

Other springs are also mentioned in the State of New York but do not appear to have assumed the importance of this. As for instance near the Canquaqa Creek in Erie county, in the vicinity of Fredonia, Chataque county ; and at Freedom in Cattaraugus county, besides several places in the vicinity of Seneca Lake.

PENNSYLVANIA.

We shall next turn our attention to the

early accounts of Petroleum in Pennsylvania, now by far the greatest producer of this commodity in America if not in the world. I have been unable to find any earlier mention of it here than that of Charlevoix in his journal of May, 1721, wherein he says that Captain de Joncaire, a man worthy of credit, had assured him in speaking of the fountain of oil called Ganos at the head of a branch of the Ohio, now better known as the Allegheny river, and had also mentioned that beyond it "a little further there is another fountain exactly like it and that the savages made use of its water to appease all manner of pains."

As the missionary had this information direct from the *Sieur Thomas de Joncaire*, as he calls him, but by other documents find him also called *Chabert de Joncaire*, it is in consequence possible that his name was *Thomas Chabert de Joncaire*, which might reconcile the discrepancy. Being satisfied by my investigations from the positions he had assumed that the same person was meant. As it is probable that he may have been the first European that visited the Oil Region of this State, at least the first known that took notice of it and communicated the important fact to others, with the celebrity the Indians attached to it, though now more than a century and a half have elapsed. In the history of this great community his name certainly stands prominent as an early observer and explorer, and for which he deserves some additional notice.

The Iroquois in the year 1700 ask permission of the Governor General at Montreal that he may be permitted with two others to return with them to their country. This was granted and he set out in their company to the Seneca canton, where, on account of his popularity he was adopted as one of their nation. We infer from what has been stated, that the locality where he was taken to, and the chief residence of the Indians, must have been near the Cuba Oil Spring. In addi-

tion it would seem that he had actually visited the Petroleum springs of New York and Pennsylvania, as we know that he remained with them at least some time into the following year. He thus acquired their language and partially adopted their customs, the source of his almost unbounded influence amongst them as well as the indefatigable promoter of French interests. In 1720 we know that he resided at the present site of Lewiston on the Niagara river, seven miles from Lake Ontario, and as a Captain in the army, restored the post at said place.

In the fall of this year while voyaging on the Genesee river, the severe weather coming on sooner than was expected, was so frozen in as to oblige him to remain there over winter. The *Marquis de Beauharnois*, Governor General of New France, in October, 1732, sent him to the Indian settlement on the Allegheny, then better known as the Ohio, six leagues below Le Bœuf river, now French Creek, to influence them not to suffer the English to come and trade in those parts. His mission here, in part, was no doubt based on a previous knowledge of the country and of its inhabitants. In 1736 he made a report to the Superintendent at Montreal of all the Indians whom he regarded as connected with the Government of Canada. Captain de Joncaire died at the post of Niagara in September 1740, greatly lamented by the Indians, as well as his countrymen.

We have another evidence that the northwestern section of Pennsylvania and parts adjacent must have been explored earlier than is commonly supposed, by a document giving an account of the Indians residing between Lake Erie and the Mississippi, written in 1718, from which we make the following extract: "There is no need of fasting, deer and buffaloes being found in abundance on the south side of Lake Erie." It was owing to this fact that the River Le Bœuf received its name. Bellin's map of Louisiana, pub-

lished at Paris in 1744, and which has received so little attention from our historians, also confirms this in its general accuracy, by which the several lakes, creeks and rivers of this section are laid down, comparing which with our modern maps could never have been done without a pretty careful examination of the country. Perhaps no small portion derived from the travels of Captain de Joncaire.

Apprehending troubles from the encroachments of the English, on what they regarded as theirs by right of discovery and occupation, Gallisoniere the Governor General of New France, dispatched Louis Celeron with a party in the summer of 1749 to take possession of all the country on both sides of the Ohio river and of its tributaries. Stating that the kings of France had acquired this right also by their arms and by the several treaties of Ryswick, Utrecht and Aix la Chapelle. To this effect he buried a leaden plate containing an inscription at the confluence of French Creek and the present Allegheny. To sustain this and to open the way for better occupation, forts were built in the spring and summer of 1753 at Presque Isle on Lake Erie, and a wagon road six leagues in length to the portage on French Creek, near the present town of Waterford, where a fort was also erected. It was to the latter that Washington was sent by Governor Dinwiddie of Virginia, in the fall of 1753, to inquire of the French commander their designs in occupying the country. He arrived at Venango, December 4th, of which in his journal says, that,

It is an old Indian town, situated at the mouth of French Creek on the Ohio. Captain Joncaire informed me that he had the command of the Ohio, also interpreter to the Indians. They pretend to have an undoubted right to the river from a discovery made by one La Salle, sixty years ago. The first fort is on French Creek, near a small lake about sixty miles from Venango, near north northwest; the next lies on Lake Erie, where the greater part

of their stores are kept, about fifteen miles from the other.

About the 16th he left the fort on his return, and says of French Creek that

It is extremely crooked. I dare say the distance between the fort and Venango cannot be less than 130 miles, to follow its meanders.

The Captain Joncaire here mentioned, was one of the sons of the explorer spoken of. The following spring the fort at Venango was completed, and in the same year Fort Du Quesne at the present site of Pittsburgh. Owing to adverse circumstances the French retreated from the latter place, November 24th, 1758, and shortly after relinquished occupation to all this section, but not without a desperate struggle and considerable bloodshed by the contending forces.

In Day's Historical Collections of Pennsylvania, published in 1843, is an account of the famous oil spring in Venango county, the same mentioned by Joncaire to Charlevoix in 1721, which includes an article taken from a newspaper, purporting to have been written by "the commandant of Fort Du Quesne to his Excellency General Montcalm," from which we take the following extract:

Some of the most astonishing natural wonders have been discovered by our people. While descending the Allegheny, fifteen leagues below the mouth of the Conewanga, and three above Fort Venango, we were invited by the Chief of the Senecas, to attend a religious ceremony of his tribe. We landed and drew up our canoes on a point where a small stream entered the river. The tribe appeared unusually solemn. We marched up the stream about half a league, where the company, a large band it appeared, had arrived some days before us. Gigantic hills begirt us on every side. The scene was really sublime. The great chief then recited the conquests and heroisms of their ancestors. The surface of the stream was covered with a thick scum, which burst into a complete conflagration. The oil had been gathered and lighted with a torch. At a sight of the flames the Indians gave forth a triumphant shout, that made the hills and valley re-echo again."

The authority for this communication, as important as it seems to be, we have been unable to find, but as it has been introduced in almost every article or work treating on the history of Petroleum and accompanied more or less with errors, induces us here to take this notice. Fort Duquesne was not commenced till in the spring of 1754, and that the Marquis de Montcalm was never Governor General of New France, or Canada, and died September 14th, 1759. The aforesaid, if from a genuine document, by its own statement must have been written somewhere between the beginning of 1756 and the fall of 1758, while generally much earlier dates have been assigned. The French army, by their statements, appear to have entered this country by way of Presque Isle and Le Bœuf, and which is confirmed by the journal of Washington.

No doubt in consequence of Celeron and his party, taking possession of the country for the King of France in 1749, induced the proprietaries of Pennsylvania to employ Lewis Evans, a surveyor of this city, to go on a secret expedition to the western parts of the province, with a view of acquiring all possible information respecting it. For this purpose instructions were given him, dated June 26th, 1750, from which we take the following extracts :

The end of your journey is to gain intelligence of the western and southern bounds of Pennsylvania where not yet settled. Minute down any intelligence you can procure of metals or minerals in this or the neighboring Colonies that may in any manner affect the proprietary interest. Make separate descriptions of all considerable rivers, their quantity of water, falls, what navigation they are capable of, and what portages there are from them to other rivers. By all safe conveyances send accounts of your proceedings. The parts about Allegheni river and its branches, where you will judge the Province may extend to, be more particular in the description of. If possible, get a sight of Lake Erie, and some place in this Province convenient for establishing a trade thereon.

Though I have failed up to this time to secure positive information that this expedition was really made, yet there is reason to believe that it was performed. For instance, Governor James Hamilton, in his letter to the Board of Trade in 1751, says that "it is from a good map only that anything can be said with precision and clearness on the several parts in your Lordship's letter, and I have waited all this time for one, the person on whom I depended to make it being, at the time I received your Lordship's commands, at a great distance in the uncultivated parts of the Province." Mr. Evans had published a map of the Middle Colonies in 1749 and was now preparing a second edition, greatly improved, which appeared in 1755, and has "PETROLEUM" marked thereon near the mouth of the present Oil Creek, on the Allegheny river. Whether he gives this from his own observation or from others I am unable to say, but the fact is there, and is likely the first that gave this mention on a map, at least for the English. It is thus seen that his knowledge came pretty near the occupation of the country by the French army in the spring of 1753, and thus attracted the attention of both sides about the same time.

After the withdrawal of the French and the loss of Canada in 1760, we hear nothing further of Petroleum here until the visit of that devoted missionary, David Zeisberger, of the Moravian Church, who first visited the country on the Allegheny river in the autumn of 1767, preaching the following October at an Indian settlement at Tionesta, twelve miles distant from the oil springs spoken of. From his life by Bishop De Schweinetz (p. 353), we gather some additional information respecting Petroleum derived from his manuscripts. He says :

I have seen three kinds of oil springs—such as have an outlet, such as have none, and such as rise from the bottom of the creeks. From the first water and oil flow out together. the oil impregnating the

grass and soil ; in the second it gathers on the surface of the water to the depth of the thickness of a finger ; from the third it rises to the surface and flows with the current of the creek. The Indians prefer wells without an outlet. From such they first dip the oil that has accumulated ; then stir the well, and, when the water has settled, fill their kettles with fresh oil, which they purify by boiling. It is used medicinally, as an ointment for toothache, headache, swellings, rheumatism and sprains. Sometimes it is taken internally. It is of a brown color, and can also be used in lamps. It burns well.

Mr. Zeisberger returned here from a visit to the east in the spring of 1769, and had a chapel built containing a bell presented by the brethren at Bethlehem. Owing to some expressions of feeling between the converts and the other Indians, he deemed it prudent to remove with his flock the following April to the present Beaver county, near the Ohio line and called the place Friedenstadt, where he remained about two years.

General Benjamin Lincoln in a letter written in 1783 to the Rev. Joseph Willard, President of the University at Cambridge, gives us the following information respecting the Petroleum spring :

In the northern parts of Pennsylvania, there is a creek called Oil Creek, which empties itself into the Allegheny river, issuing from a spring, on the top of which floats an oil, similar to what is called Barbadoes tar, and from which may be collected by one man several gallons in a day. The troops in marching that way, halted at the spring, collected the oil, and bathed their joints with it. This gave them great relief, and freed them immediately from the rheumatic complaints with which many of them were affected. The troops drank freely of the waters,—they operated as a gentle purge.

This account was published in the year 1785 in the first volume (p. 375–6) of “Memoirs of the American Academy of Arts and Sciences” at Boston, and attracted great attention, having been widely republished.

Dr John David Schopf an observing German and a surgeon to the Hessian troops

in the British service, visited Pittsburg in 1783, and mentions in his travels while there that he had been informed that Petroleum was found at several places up the Allegheny, particularly at a spring and a creek which was covered with this floating substance. On William Scull’s map of Pennsylvania, published in 1770, Oil Creek is represented but without a name. On the west side of its mouth is given “Bucaloon,” an Indian town, and four miles below it another on the same side the Allegheny called “Kushusdatening.” Ft. Venango is indicated on the west side of French Creek at its mouth ; but not a single white settlement or town is mentioned anywhere on said map within one hundred miles of the spring, so wild and little known was the country then. The proprietors of the Columbian Magazine, published in this city in 1787 a map of Pennsylvania for their patrons. Oil Creek is represented unnamed, “*Petroleum*” is marked near its confluence with the Allegheny, evidently taken from Evan’s Map of 1755 ; perhaps induced to do so from the late reports sent forth respecting its extraordinary medicinal virtues. Reading Howell in his maps of 1792 and 1809 did not notice it. John Melish in his large map of Pennsylvania published in 1822, calls it “Oil Creek,” mentions an “Oil spring” below “Titus’s,” now Titusville, named after Jonathan Titus who took up land and settled there in 1797 ; and in addition the “Oil Springs” near the mouth of the creek, severally represented by small circles. This was followed by William E. Morris on his map of 1848, with the exception of calling the lower ones the “Seneca Oil Springs,” by which name they had been generally known, at least in the neighborhood for a long time previous.

The first Gazetteer of the United States was published in 1795 by Joseph Scott of Philadelphia, from which we take the following account :

Alleghany, a large uncultivated county of Pennsylvania, bounded north by the

State of New York and part of Lake Erie, east by Alleghany river, which separates it from Lycoming and Westmoreland counties, west by the North Western Territory, and south by Washington county. It is 144 miles in length, and 80 in breadth, and contains 4,299,920 acres divided into six townships, but these contain only a small part of the lands in this county. It is well watered by the Ohio, Alleghany river and French Creek, besides a number of small streams. The land in some places is poor, but more generally rich and well timbered, particularly on French Creek. In this county is Oil Creek; it flows from a spring much celebrated for bitumen resembling Barbadoes tar, and is known by the name of Seneca Oil. It is found in such plenty that a man may gather several gallons in a day. It is said to be a sovereign remedy for various complaints.

Pittsburg he informs us being the seat of justice containing a postoffice and about 200 dwellings, with a population of 10,309 inhabitants in the county. Such extracts are both curious and instructive and show the extraordinary progress made since.

Mr. Cuming in his "Sketches of a Tour to the Western Country," in the summer of 1807, informs us that

The virtues of Seneca oil are similar to those of British oil and supposed to be equally valuable in the cures of rheumatic and other pains. Large quantities being collected on Oil Creek, a branch of the Alleghany river, and sold at from one dollar and a half to two dollars per gallon. The mode of collecting it is this: the place where it is found bubbling up in the creek is surrounded by a wall or dam to a narrow compass, a man then takes a blanket, flannel, or other woolen cloth, to which the oil adheres, and spreading over the surface of the enclosed pond, presses it down a little, then draws it up, and running the cloth through his hands, squeezes out the oil into a vessel prepared for the purpose; thus twenty or thirty gallons of pure oil can be obtained in two or three days by one man.

Jedediah Morse in his American Geography published in 1802, gives some account of the oil spring on Oil Creek, but nothing additional to what has been stated. The same may be said of D. B.

Warden's "Account of the United States, published at Edinburgh in 1819. Thomas F. Gordon in his Gazetteer of Pennsylvania, published in 1832, informs us that

A bituminous oil issues from several sources on Oil Creek, known as Seneca oil; it colors the waters and emits a strong odor, even at the mouth of the creek. The oil is burned in lamps, and used in various ways; but is particularly valued for its bituminous qualities. Considerable quantities are annually sent to the Eastern markets.

Timothy Flint in his Geography of the Mississippi Valley, published in 1832, speaks of it as a natural curiosity, possessed of bituminous or unctuous matter, very probably petroleum and possessing medical virtues. He says, "At Pittsburg they keep this oil in bottles, and attach much confidence to it as containing some mysterious efficacy." Rebecca Eaton in her Geography of Pennsylvania, published in 1835, mentions it as being collected and used for lamps and other purposes in considerable quantities, and also for exportation. Thomas F. Gordon in his Gazetteer of New York (p. 356, Phila., 1836) says in relation to the Cuba spring, that "The petroleum sold in the Eastern States under the name of Seneca oil, is not obtained here, but from Oil creek, in Venango county, Pennsylvania, where it is not only more abundant but more pure."

In the Historical Collections of Pennsylvania by Sherman Day, a valuable work published in 1843, we gather a few additional facts:

"Accordingly," he says, "we find in almost every direction traces of a numerous Indian population once inhabiting this region. Remains of villages are found at the mouth of Oil creek, and about the mouth and along the waters of French creek. This spot has been a familiar one to Cornplanter. The Commonwealth of Pennsylvania granted him a tract of five hundred acres of land, situated at the mouth of Oil creek, seven miles above this place, and including the oil springs, somewhere about 1792. He sold it about twenty years ago. This spot has

been the theatre of many of his actions, he was frequently here, and had traded extensively at this place in 1787, and subsequently, and had, I suppose, also traded with the French when they occupied this ground.

Charles B. Trego in his *Geography of Pennsylvania*, published in 1843, has given an interesting account of petroleum in his notice of Oil creek, which, he says,

Derives its name from the substance called Seneca oil, which rises in bubbles from the bed of the stream, and on reaching the top of the water these bubbles explode, leaving the oil floating on the surface. Though this oil is found in many places throughout the whole course of the stream, it is most abundant two or three miles from the mouth, several of the owners of the land make a business of collecting the oil during the dry season, as it is most plentiful at low water. From two to ten or twelve barrels are collected in a season by each of the proprietors; the quantity depending on the prevalence of dry weather and low water. In the low grounds along this creek, oil may be obtained by digging to a level with the bottom of the stream, but when thus procured it is not so pure and clean as that taken upon the surface of the creek. This mode of obtaining it has evidently been practiced by the Indians, or some other people, long before the white man set his foot upon the soil of this region. Places of four or five acres in extent may still be seen, where holes have been dug in the ground from six to twelve feet in diameter, close together, being yet from two to four feet deep, and having trees standing on many of them of upwards of one hundred years' growth. On the settlement of this part of the country, some of the oldest Indian residents were questioned respecting these excavations, but were unable to give any information concerning them. The medical qualities of this oil have been much extolled. Forty or fifty years ago it was sold at sixteen dollars per gallon; but its present price in Pittsburg is from seventy-five cents to one dollar.

PENNSYLVANIA AND OHIO LINE.

In 1755 Lewis Evans denoted the existence of "Petroleum" on his map of the Middle Colonies at the present boundary line between the States of Pennsyl-

vania and Ohio, being on the north side of the river. It would certainly be curious at this time to know how he at this remote period arrived at this fact; whether he himself was there or received it from a French source, or from some one engaged in the Indian trade. It is sufficient, however, that it received his attention and was so indicated. This map is also the first that mentions coal, salt springs, limestone and freestone in the present State of Ohio.

George Henry Loskiel in his "*Geschichte der Mission der Evangelischen Bruder unter den Indianern in Nordamerika*," published at Barby, Germany, in 1789, (pp. 151-2), thus speaks on the subject:

One of the most favorite medicines used by the Indians is *fossil oil* (Petroleum), exuding from the earth, commonly with water. It is said that an Indian in the small-pox lay down in the morass to cool himself, and soon recovered. This led to the discovery of an oil spring in the morass, and since that time many others have been found in the country of the Delawares and the Iroquois. They are observed both in running and standing water. In the latter the oil swims on the surface and is easily skimmed off, but in rivers it is carried away by the stream. Two have been discovered by the missionaries in the river Ohio. They are easily found by the strong smell they emit, and even those in rivers and brooks may be smelt at the distance of four or five hundred paces. The soil in the neighborhood of these springs is poor, cold, loamy, or covered with sand. Neither grass or wood thrives on it, except some small crippled oaks. It does not seem to proceed from a vein of coals, for no coals have been as yet discovered in the neighborhood of the springs, but strata of sandstone only. This oil is of a brown color, and smells something like tar. When the Indians collect it from a standing water they first throw away that which floats on the top, as it smells stronger than that below it. Then they agitate the water violently with a stick; the quantity of oil increases with the motion of the water, and after it has settled again the oil is skimmed off into kettles and completely separated from the water by boiling. They use it chiefly in external com-

plaints, especially in the headache, toothache, swellings, rheumatism, dislocations, &c., rubbing the part affected with it. Some take it inwardly, and it has not been found to do harm. It will burn in a lamp. The Indians sometimes sell it to the white people at four guineas a quart.

This is certainly a very good account of Petroleum, when we consider, too, that the writer was a foreigner and not in this country till 1802. He subsequently became a bishop in the Moravian Church, and lived at Bethlehem, where he died February 23d, 1814, aged 74 years. For this information no doubt he was indebted to the missionaries, particularly Zeisberger.

John Burson a farmer of the Shenandoah valley in emigrating to Ohio in 1806, crossed the river near Georgetown and there saw persons engaged in collecting the scum with woolen blankets from the pools. This he learned was chiefly procured for medical purposes, calling it Rock oil. This information was lately communicated to me by one of his sons.

Mr. F. Cuming in his Western Tour, informs us that he landed at Georgetown, July 19th, 1807, and states that,

It contains about thirty houses in a fine situation, on a narrow plain, extending from the high river bank to the hills which surround it like an amphitheatre. Though it is a post-town, and a considerable thoroughfare of travellers, it is nevertheless on the decline, there being only twenty-five houses inhabited. Little Beaver Creek nearly opposite, is a handsome little river, about thirty yards wide; half a mile below which, we saw the division line between Pennsylvania and Virginia on the left and between the former and Ohio on the right. About a mile above Little Beaver, in the bed of the Ohio, and near the northwestern side, a substance bubbles up, and may be collected at particular times on the surface of the water, similar to Seneca oil. When the water is not too high, it can be strongly smelt while crossing the river at Georgetown. It is presumed to rise from or through a bed of mineral coal emboweled under the bed of the river.

OHIO.

In a communication on the resources of the State of Ohio, written in August, 1808, by Gideon C. Forsyth, of Wheeling, and published shortly after in the New York Medical Repository, he says "there are many springs, where the Petroleum or Seneca oil is gathered in abundance." Under date of January 17th, 1809, to the same publication, Dr. S. P. Hildreth, of Marietta, in describing the productions of that neighborhood, remarks that

Seneca oil is a kind of Petroleum, is found up the Muskingum, it is obtained when the water is low, in the beds of creeks and the river. It commonly rises in bubbles, which burst and float on the water. Where these are seen to rise, they enclose the place with stones, to prevent the current from carrying it away, and sometimes gather a barrel in a few days.

Dr. Hildreth, in 1819, wrote a series of articles relating to the geology and topography of Ohio, addressed to his friend Caleb Atwater, Esq., of Circleville. From these we learn that operations were commenced in the summer and autumn of 1817 to bore for salt water on the Little Muskingum, for which purpose two wells were sunk upwards of 400 feet in depth.

One, he says, affords a very strong and pure water, but not in great quantity. The other discharged such vast quantities of Petroleum, or, as it is vulgarly called, "*Seneca Oil*," and besides, is subject to such tremendous explosions of gas as to force out all the water, and afford nothing but gas for several days, that they may make but little or no salt. Nevertheless, the Petroleum affords considerable profit, and is beginning to be in demand for lamps in workshops and manufactories. It affords a clear, brisk light when burnt in this way, and will be a valuable article for lighting the street lamps in the future cities of Ohio.

This remarkable prediction was made more than forty years before the successful attempt of Colonel E. L. Drake near Titusville, and at a depth six times greater. Warden, in his "Account of the United States," also gives us some information in 1819 respecting the existence of Petroleum in the valley of the Muskingum and its branches.

WESTERN VIRGINIA.

Although Petroleum has been known to exist in Western Virginia for some time, I have still been able to find but little of interest relating to the subject in that section, compared to what has been given in the neighboring States and New York. General Lincoln, in his communication to the Rev. Joseph Willard in 1783 on the oil spring in Pennsylvania, says :

There is another spring in the western part of Virginia, as extraordinary in its kind as the one just mentioned, called the Burning Spring. It was known a long time to the hunters. They frequently encamped by it for the sake of obtaining good water. Some of them arrived late one night, and after making a fire they took a brand to light them to the spring. On their coming to it some fire dropped from the brand, and in an instant the water was in a flame, and so continued, over which they could roast their meat as soon as by the greatest fire. It was left in this situation, and continued burning for three months without intermission. The fire was extinguished by excluding the air from it, or smothering it. The water taken from it into a vessel will not burn. This shews that the fire is occasioned by nothing more than a vapour that ascends from the waters.

He further informs us that he had received this information chiefly from General Washington, who had become the owner of the land around the spring from the interest he had taken in it as an object of curiosity. This may be observed also in the notes to the schedule of his will, dated July 9th, 1799, in speaking of his lands upon the Great Kanawha, says : That "the tract of which the 125 acres is a moiety, was taken up by General Andrew Lewis and myself for and on account of a bituminous spring which it contains, of so inflammable a nature as to burn as freely as spirits, and is as nearly difficult to extinguish."

Thomas Jefferson who wrote his account in 1781, gives some additional information.

In the lower grounds of the Great Kanawha, seven miles above the mouth of

Elk river, and sixty-seven above that of the Kanawha itself, is a hole in the earth of the capacity of thirty or forty gallons, from which issues a bituminous vapor in so strong a current as to give the sand about its orifice the motion which it has in a boiling spring. On presenting a lighted candle or torch within eighteen inches of the hole it flames up in a column of eighteen inches diameter, and of four or five feet in height, which sometimes burns out within twenty minutes, and at other times has been known to continue three days, and then has been still left burning. The flame is unsteady, of the density of that of burning spirits, and smells like burning pit coal.

Joseph Scott in his United States Gazetteer of 1795, and Joseph Martin in the Virginia Gazetteer of 1836, have also given notices of this spring.

In the "Account of West Virginia" by J. R. Dodge, we learn that in 1825, oil was procured by digging pits to the depth of a dozen feet or more along Hughes river, below the junction of the North and South Forks. It was chiefly used as a liniment for burns, cuts and bruises. In these excavations it was obtained by simply pouring in water, stirring the sand with hoes, and allowing the oil to accumulate on the surface. While boring for salt on the Little Kanawha, twenty-seven miles from Parkersburg in 1842, Petroleum was discovered, but no particular efforts made for obtaining it, till in the fall of 1859.

GENERAL REMARKS.

Petroleum became first introduced as a medicine ; of its virtues in this respect sufficient has been given in the numerous extracts quoted. As it is now so much used for giving light, for which purpose it is one of the best and cheapest, I deem that part of its history of particular interest. David Zeisberger who visited the Pennsylvania Oil Region in the summer of 1767 as a Missionary amongst the Indians, mentions in his manuscripts about the oil springs there, and that the Petroleum "can also be used in lamps. It burns well." This is the earliest mention of this

use I have found in our country, and gives also the method adopted in purifying it by boiling in kettles. This statement is confirmed by Bishop Loskiel in his History of the Indian Missions published in 1789. Dr. Hildreth of Marietti in 1819, in enumerating the advantages of Petroleum, says it "is beginning to be in demand for lamps in workshops and manufactories."

A letter was published in the *Pittsburgh Gazette* in 1828, suggesting said city be lighted at that time by Petroleum :

I see, says the writer, that the corporation has at last determined to light the city. It is a very sensible determination; for indeed few places need it more. I fear that lighting with gas will be found troublesome and expensive in spite of the vast supply and cheapness of coal; but I will tell you what is the cheapest, best, and most economical light you can use; it is what is called in the West Seneca oil, which is Petroleum. This substance, were there a ready market for it might be supplied at your very doors to an almost unlimited extent. At present it is almost useless, being used only as an ingredient in what is called "British oil," and as a horse medicine (in which, by the by, it is very useful.) The price of it is very low, because a few barrels glut the demand of the apothecaries; but if the city would take a large quantity, or if it were brought into use otherwise, I think it could be supplied at twenty-five cents per gallon. The salt wells may be cleared of what floats by letting a blanket down every quarter of an hour, and this will also apply to the springs where it is discovered. Let any one who doubts that it is a perfectly good oil for lamps, send to the apothecary's for half-a-pint, and burn it one night in a lamp of any kind, precisely as fish or spermaceti oils are burned, observing only that to avoid smoke, it is necessary the length of the wick, should be diminished. I have tried it, and found it to succeed perfectly, and there is no reason why it should not be clarified as well as any other oil (and then it will burn as free from smoke), by filtering or precipitating the gross particles contained in what is now brought to market. If Seneca oil will supply more gas than animal oils, which I do not doubt, and if it can be procured at twenty-five

cents per gallon, a fair trial of it in this way would, assuredly, be demanded by common prudence.

Little did the readers of that article fifty-eight years ago, expect the facts that were therein set forth to be realized about one-third of a century later. He mentions his mode of burning it, which no doubt was the same way to which Gordon in his *Gazetteer* had reference in 1832. Charles B. Trego, in 1843, speaks of it as burning "well in lamps, though it emits a heavy black smoke and a strong bituminous odor, which to many persons is disagreeable."

The discovery of the distillation of oil from cannel or bituminous coal, called kerosine, greatly aided in bringing the natural product into use, by its being already at hand and requiring only the application of the refining and deodorizing processes that had been previously acquired thereby to produce a much cheaper article. With this also came an additional improvement in lamps for burning it. To the cylindrical tube of an inch or two in length was added the glass top or chimney, which caused it to emit a stronger light, cease smoking and to be less easily extinguished in carrying from place to place.

Under the old method of collecting the surface oil from the springs along Oil Creek, General Samuel Hays, who resided since 1803 in that section, estimated the highest annual yield at sixteen barrels, worth at Pittsburg about one dollar per gallon. Charles B. Trego, in 1843, estimated that for some time previous the average of each proprietor as producing from two to twelve barrels a year, the amount being greater with low water in a dry season. Gordon, in his *Gazetteer*, informs us that in 1828 there were five salt wells on the Allegheny that made 7,000 barrels per year; that these wells were generally from 400 to 500 feet deep, and one of 750 feet, tubed with copper and pumped by steam, but had been previously

worked by horse-power. This is significant, for it shows that in the vicinity of the Oil Region, at least one-third of a century previous to Colonel Drake's successful boring, that they must have had a good knowledge of the art, and all it needed was to apply it for that particular purpose. In corroboration, in boring for salt in 1845, near Tarentum, on the Allegheny river, twenty miles from Pittsburgh, abundance of Petroleum was found, similar to what was discovered in 1817 on the Little Muskingum, as related by Dr. Hildreth. Also, in boring for salt in Western Virginia a number of Petroleum springs were struck between the years 1825 and 1857, the annual production from 1850 to 1857 being estimated by Dodge to reach seventy-five barrels per annum. Had there been a sufficient demand the business of production could have thus been made much greater. The wonder is now that it did not come sooner in general demand as a cheaper light and for the many other useful purposes to which it is applied.

It is very well in reviewing the past for nearly two and a half centuries, what has been said respecting the discovery and early accounts of the importance and value of Petroleum in our country, also to take some notice of the works that within a recent time have given it little or no attention, and under the circumstances are occasion for surprise. In Hazard's Register of Pennsylvania for the years 1831 and 1835, may be seen two lengthy descriptions of Venango county, written it appears by correspondents residing there, though an account is given of the natural resources, not a word is mentioned therein of Petroleum. In the article Bitumen, in the American Encyclopedia, published in this city in 1835, mention is made of its being found abundantly in New York, Kentucky and Ohio, "where it is known under the name of Seneca or Genesee oil." Pennsylvania being omitted in the list. By order of the State and by its expense, a geological survey of Pennsylvania was made between the years 1836 and 1857, resulting in the publication in 1858 of what is called the "Geology of Pennsylvania," in two quarto volumes, containing without the preface 1,632 pages. In its copious index, Petroleum is referred to *only once*, which is at page 583 of volume 1. "A little Petroleum is found in all of those quarries," speaking of the building stone in Erie and a portion of Crawford

counties. But we do no better respecting Petroleum when we examine the large map attached to the work, for we find whatever is there respecting it copied from John Melish's map of the State, published in 1822, and precisely to the same scale. Those engaged on the present geological survey we have no doubt will give it that attention which its present importance deserves.

The intention of this paper is purely historical, to bring together but not without considerable research the early accounts I have been enabled to find respecting it, which I have thought the interest arising from the subject now demanded. Giving this opinion only after having examined numerous works on Petroleum but deemed deficient in this particular. So the design is to omit the history of its general use and introduction, say for the last quarter of a century, which has been amply treated upon. To show the magnitude of this product we present the following statistics: The total production of Crude oil in Pennsylvania in 1872 was 6,539,000 barrels, West Virginia, Kentucky and Ohio, 325,000 and Canada 530,000 barrels. Thus it will be seen for said year that this State produced considerably over seven times more than the rest of the United States and British America together. In the year 1874, 417 vessels were loaded with Petroleum at Philadelphia, of which 51 were American, 11 Austrain, 1 Belgium, 116 British, 6 Danish, 104 German, 1 Holland, 23 Italian, 73 Norwegian, 7 Portugese, 7 Russian, 4 Spanish and 23 Swedish, carrying 1,652,601 barrels, valued at \$9,648,063. Exceeding for said time the shipment of breadstuffs at the same port almost \$1,500,000. The total value of Petroleum exported for that year from the ports of New York, Boston, Philadelphia and Baltimore was \$37,000,000.

On motion of Edward T. Randolph and seconded, it was unanimously

Resolved, That the thanks of the Historical Society of Pennsylvania are justly due and are hereby presented to Mr. William J. Buck, for his interesting and instructive discourse just delivered, and that a copy be requested for preservation in our archives.

JOHN WM. WALLACE, President.

TOWNSEND WARD, Secretary.

Hall of Historical Society, March 13, 1876.



